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26. DECLASSIFICATION:  NOT APPITICABLE  NOT APPITION:  NOTE  PERFORMING ORGANIZATION REPORT NUMBER(S)  NONE  Sa. NAME OF PERFORMING ORGANIZATION (if applicable)  Southern Illinois University at Carbondale Carbondale, Illinois Segool  ATISNITION:  Office of Research Development and Administration  AFOSR  Be Address (Gry, State, and ZIP Code)  Southern Illinois (Segool)  ATISNITION:  Office of Research Development and Administration  AFOSR  Be Address (Gry, State, and ZIP Code)  Building 410  Bolling AFB, DC 20332-6448  INTILE (Include Security Classification)  A Proposal for Funding to Purchase a High-Temperature Furnace to Enable Determinat the High Temperature Mechanical Properties of Structural Carbon Materials  12. PERSONAL AUTHOR(S)  Maurice A. Wright  13a. TYPE OF REPORT  Final  13b. TIME COVERED  Final  15b. SUPPLEMENTARY NOTATION  17 COSATI CODES  FIELD  GROUP  SUB-GROUP  SUB-GROUP  TISS SUB-GROUP  18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)  This reconstruction or reverse if necessary and identify by block number)  This reconstruction or reverse if necessary and identify by block number)  This reconstruction or reverse if necessary and identify by block number)  This reconstruction or reverse if necessary and identify by block number)  This reconstruction or reverse if necessary and identify by block number)  This reconstruction or reverse if necessary and identify by block number)  This reconstruction or reverse if necessary and identify by block number)  This reconstruction or the equipment, a purchase requisition was processed on December 7, 1987 through university produires and Board of Trustees approcessed on December 7, 1987 through university produires and Board of Trustees approach in the purchase requisition was processed on December 7, 1987 through university produires and Board of Tru	AD-A204 103  CCLASSIFICATION, C	1b. RESTRICTIVE MARKINGSTILLLURI None  3. DISTRIBUTION/AVAILABILITY OF REPORT Unlimited/Unclassified  5. MONITORING ORGANIZATION REPORT NUMBER(S)
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All other editions are obsolete.

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AFOSR-TR- 88-1315

REPORT NUMBER:

None

TITLE:

Funding of High-Temperature Furnace to Enable Determination of High Temperature Mechanical Properties of Structural Carbon Materials

AUTHOR, ORGANIZATION, ADDRESS:

Maurice A. Wright, Director Materials Technology Center

Southern Illinois University at Carbondale

Carbondale, IL 62901-4303

DATE:

13 October 1988

TYPE OF REPORT:

Final for period 15 August 1987 - 15 August 1988

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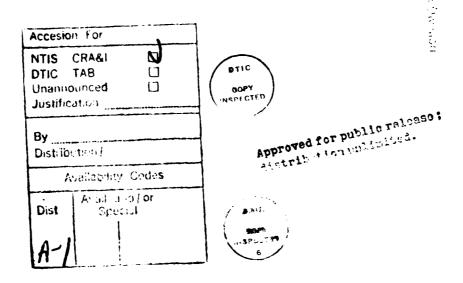
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CONTROLLING OFFICE AND ADDRESS:

AFOSR/NE

Building 410

Bolling AFB DC 20332-6448



## FINAL REPORT

for AFOSR on Proposal for Funding to Purchase a High Temperature Furnace to Enable Determination of the High Temperature Mechanical Properties of Structural Carbon Materials

This report documents the purchase of a controlled environment furnace, designed for attachment to the MTS and Instron tensile testing machines used by the researchers of the Materials Technology Center at Southern Illinois University at Carbondale. After investigating proper sources for the equipment, a purchase requisition was processed on December 7, 1987 through university procedures and Board of Trustees approval for the following:

Centorr Model PT-4x10-G-G-D6A4-A-27 high temperature vacuum and controlled atmosphere multi-purpose front loading graphite hot zone furnace, completely assembled and tested

75 KVA 480/3/60 Power Supply

Sensor: 3 Phase Power Transducer, Ircon Modline 11 220A Infrared Pyrometer with 1500°C temperature range and mount, and PT/PYR Automatic Selector Switch with manual override Honeywell DCP-700 2-channel programmer-controller

Honeywell 111 single pen-strip chart recorder
Leybold-Heraeus Model D16A (14.1 CFM) Direct Drive (Rotary Vane)
Mechanical Pump with #AFB-16A exhaust filter
Electro-pneumatic vacuum valve

TOTAL ACQUISITION COST......\$83,950.00

Funded by: AFOSR-87-0397.....\$64,976.00 Southern Illinois University

contributing funds \$18,974.00

Furnished by: Centorr Associates Route 28 Suncook, NH 03275

The Furnace was delivered to Technology Building B, Room 124, at the Southern Illinois University at Carbondale Campus on September 15, 1988. A General Improvements Request has been processed through the campus Physical Plant for modifications to existing facilities to adapt the laboratory for the high temperature vacuum, controlled asmosphere,

furnace for utility requirement changes of electrical, and compressed air upgrading. As soon as the Physical Plant provides the cost estimate for the laboratory room modifications, it is estimated that after funding has been arranged that the upgrading work will be completed within one month. It is expected that the furnace will be in operation in early January, 1989, and research for the benefit of the principal investigators outlined in the grant proposal can begin.

Any publications, resulting from the use of the furnace will bear the citation of funding by AFOSR, one copy of each manuscript or abstract will be submitted to AFOSR, and six reprints of any published paper will be also furnished as outlined in the report specifications. The following citation will appear on each document:

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News releases, interviews, and other public statements about research sponsored by AFOSR will acknowledge AFOSR, Air Force Systems Command, USAF as the supporting agency.

No research has been conducted on the equipment, no publications resulting from its use, no patents or new discoveries, and no principal investigators have used the equipment during the period of this final report.

Title to the furnace vests in Southern Illinois University at Carbondale who agrees that no charge will be made to the Government for any depreciation,

amoritization or use charge with respect to such other items under any existing or future Government grant or contract. The furnace will bear a State of Illinois Property Control Inventory number for accurate recording listing serial number, etc. The Final Fiscal Report will be reported by the Office of Research and Projects Fiscal Management of Southern Illinois University at Carbondale.

Submitted by:

Maurice A. Wright, Director Materials Technology Center

Southern Illinois University at Carbondale

Carbondale, IL 62901-4303

Date: 13 October 1988